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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,672	09/09/2002	William C. Athas	18036-24199	6837
33401	7590	05/10/2004	EXAMINER	
MCDERMOTT, WILL & EMERY (LOS ANGELES OFFICE) 2049 CENTURY PARK EAST 34TH FLOOR LOS ANGELES, CA 90067-3208			CHO, JAMES HYONCHOL	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	10/031,672	ATHAS ET AL.	
	Examiner	Art Unit	
	James Cho	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the corresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-29 is/are allowed.
- 6) ☒ Claim(s) 30 and 32-41 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Receipt is acknowledged of the Amendment filed February 17, 2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 30, 35 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Sigal (US PAT No. 5,504,441).

Regarding claim 30, Figs. 1, 2, 3A and 3B of Sigal teaches a clock-powered logic system containing logic (Fig. 3A) configured to be connected to a supply voltage (see Fig. 1) and configured to be powered by a set of substantially complementary and substantially non-overlapping clocks (CLOCK1 and CLOCK2 in Fig. 3B) having a voltage of a magnitude that does not exceed the magnitude of the supply voltage (col. 1, line 43+).

Regarding claim 35, Figs. 1, 2, 3A and 3B of Sigal teaches the clock-powered logic system of claim 30 where the system includes an n-latch (Fig. 2 latch comprising N20, N21, P20, P21, I20-I22).

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Regarding claim 37, Figs. 1, 2, 3A and 3B of Sigal teaches the clock-powered logic system of claim 30 where the system includes a clocked buffer (dynamic logic gate comprising P10, P14, N10-14 in Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 32-34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sigal (US PAT No. 5,504,441) in view of Han (UK GB 2,248,988).

Regarding claims 32-34 and 36, Figs. 1, 2, 3A and 3B of Sigal discloses the clock-powered logic system of claim 30, but does not disclose the system including a jam latch, a signal level booster, a pulse-to-level converter, or a device that can be clocked by a signal of smaller magnitude than the supply voltage.

However, Fig. 3 of Han discloses a signal level booster, a jam latch, or a pulse-to-level converter having an input and an output having a greater magnitude for the purpose of providing double voltage source interface circuit with reduced power consumption.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a jam latch, a signal level booster, or a pulse-to-level converter of Han in the system of Sigal because it would provide an interface circuit with a reduced power consumption.

4. Claims 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sigal (US PAT No. 5,504,441) in view of Dickinson (US PAT No. 5,521,538).

Regarding claims 38-41, Figs. 1, 2, 3A and 3B of Sigal discloses the clock-powered logic system of claim 30, but does not disclose the system is configured to utilize an adiabatic signal including blips or a ramp signal, or a staircase signal. However, Fig. 1 of Dickinson teaches an adiabatic logic circuit having the same switching potential as a CMOS logic and the adiabatic logic provides low-power consumption (col. 1, lines 16-63). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use an adiabatic signal including blips or a ramp signal, or a staircase signal as an input signal of Dickinson for the purpose of providing compatibility among different data signals.

Allowable Subject Matter

5. Claims 1-29 are allowable over the prior art of record.

6. Claim 31 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Response to Arguments

8. Applicant's arguments filed February 17, 2004 have been fully considered but they are not persuasive regarding claims 30, 32-41.

On pages 9-11 of the amendment, applicant argues that Fig. 12A of Sigal does not provide "substantially complementary, substantially non-overlapping clock pulses". However, the examiner notes that Figs. 1, 2, 3A and 3B teaches the use of "substantially complementary, substantially non-overlapping clock pulses" shown in Fig. 3B. The examiner further notes that the new limitations in claim 38 are taught by Dickinson as discussed above.

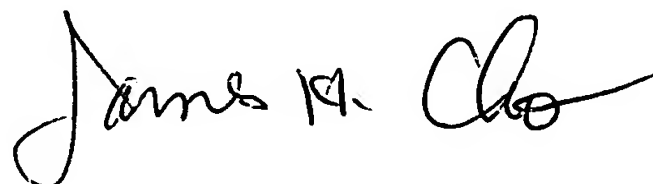
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Cho whose telephone number is 571-272-1802. The examiner can normally be reached on M-F 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "James H. Cho". The signature is fluid and cursive, with the first name "James" being the most prominent part.

James H. Cho
Primary Examiner
Art Unit 2819

May 3, 2004